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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,073	11/29/2004	Nao Asai	121926	9662

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EXAMINER	
WOOD, ELLEN S	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,073	ASAI ET AL.	
	Examiner	Art Unit	
	ELLEN S. WOOD	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi et al. (US 6,929,836).

In regards to claim 1, Kikuchi et al. disclose a multi-layered bottle manufactured by performing a biaxial stretch blow molding (abstract). The multi-layered bottle is formed from a thermoplastic resin that contains thermoplastic polyester (col. 6 lines 5-9). The thermoplastic resin can be used as an intermediate layer where it has gas barrier properties (col. 6 lines 45-46). The multi-layered bottle is manufactured based on a known biaxial stretch blow molding method (col. 8 lines 19-21). The multi-layered bottle is manufactured by stretching the multi-layered preform (col. 8 lines 49-50). The preform is manufactured by performing the compression molding of the composite molten material (col. 8 lines 22-25). The multi-layered preform is stretched in the longitudinal direction using a stretching rod and in the lateral direction using blown air by a stretch blow molding method at a stretching temperature (col. 8 lines 49-54). Thus, the container process includes bi-axial stretch blow molding steps and is stretched by a

stretching rod, thus being stretched twice. A heat set may be performed if necessary (col. 8 lines 58-59).

In regards to claim 2, Kikuchi et al. disclose that the thermoplastic resin that may be used is polyethylene terephthalate (col. 6 lines 9-10). It is preferred that there is a blend of resins in which ethylene-terephthalate based thermoplastic polyester is blended (col. 6 lines 12-13). The ethylene-terephthalate can be subjected to copolymer polyester that contains a small quantity of ester units formed by naphthalene dicarboxylic acid (col. 6 lines 36-38). Another form of the resin can contain a xylylene group such as polymetaxylylene adipamido (col. 6 lines 45-49). These resins are subjected to the same stretching process as described in the previous paragraph.

In regards to claim 3, Kikuchi et al. a multi-layered synthetic resin container is formed that comprises a layer a plurality of intermediate layers which are made from gas barrier resin, recycled resin and heat-resistant resin (col. 3 lines 32-34). The multi-layered bottle is formed from a thermoplastic resin that contains thermoplastic polyester (col. 6 lines 5-9). The thermoplastic resin can be used as an intermediate layer where it has gas barrier properties (col. 6 lines 45-46). The multi-layered bottle is manufactured based on a known biaxial stretch blow molding method (col. 8 lines 19-21). The multi-layered bottle is manufactured by stretching the multi-layered preform (col. 8 lines 49-50). The preform is manufactured by performing the compression molding of the composite molten material (col. 8 lines 22-25). The multi-layered preform is stretched in the longitudinal direction using a stretching rod and in the lateral direction using blown air by a stretch blow molding method at a stretching temperature

(col. 8 lines 49-54). Thus, the container process includes bi-axial stretch blow molding steps and is stretched by a stretching rod, thus being stretched twice. A heat set may be performed if necessary (col. 8 lines 58-59).

In regards to claim 4, Kikuchi et al. disclose that the thermoplastic resin that may be used is polyethylene terephthalate (col. 6 lines 9-10). It is preferred that there is a blend of resins in which ethylene-terephthalate based thermoplastic polyester is blended (col. 6 lines 12-13). The ethylene-terephthalate can be subjected to copolymer polyester that contains a small quantity of ester units formed by naphthalene dicarboxylic acid (col. 6 lines 36-38). Another form of the resin can contain a xylylene group such as polymetaxylylene adipamido (col. 6 lines 45-49). These form of the resins are subjected to the same stretching process as described in the previous paragraph.

In regards to claim 5, Kikuchi et al. disclose a five-layered structure that consists of OTP/GBR/RCR/GBR/OTP (col. 7 line 41). Where OTP indicates oriented thermoplastic resin, GBR indicates gas barrier resin, and RCR indicates recycled resin (col. 7 lines 24-30). Thus, the container contains two GBR layers that contain the gas barrier thermoplastic resin as described in the above paragraphs.

In regards to claims 6-7, Kikuchi et al. disclose the method of forming a multi-layered synthetic resin container that comprises a layer a plurality of intermediate layers which are made from gas barrier resin, recycled resin and heat-resistant resin (col. 3 lines 32-34). The multi-layered bottle is formed from a thermoplastic resin that contains thermoplastic polyester (col. 6 lines 5-9). The thermoplastic resin can be used

as an intermediate layer where it has gas barrier properties (col. 6 lines 45-46). The multi-layered bottle is manufactured based on a known biaxial stretch blow molding method (col. 8 lines 19-21). The multi-layered bottle is manufactured by stretching the multi-layered preform (col. 8 lines 49-50). The preform is manufactured by performing the compression molding of the composite molten material (col. 8 lines 22-25). The molten material being of the various resins set forth in the application. The multi-layered preform is stretched in the longitudinal direction using a stretching rod and in the lateral direction using blown air by a stretch blow molding method at a stretching temperature (col. 8 lines 49-54). Thus, the container process includes bi-axial stretch blow molding steps and is stretched by a stretching rod, thus being stretched twice. A heat set may be performed if necessary (col. 8 lines 58-59).

Claim Rejections - 35 USC § 103

3. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (US 6,929,836, hereinafter "Kikuchi") in view of Nakamaki et al. (US 5,735,420, hereinafter "Nakamaki").

Kikuchi discloses a multi-layer bottle that is manufactured by performing biaxial stretch blow molding (abstract) with a heat setting step perfomed (col. 8 lines 58-59). A thermoplastic blend may be formed for the inner and outer layers (base and protection layers) of the bottle which includes polyethylene terephthalate and ethylene-terephthalate copolymers (col. 6 lines 9-15). The ethylene-terephthalate can be subjected to copolymer polyester that contains a small quantity of ester units formed by

naphthalene dicarboxylic acid (col. 6 lines 36-38). A multi-layered preform is manufactured from the thermoplastic resin (col. 5 lines 38-40).

Kikuchi is silent with regards to the blend ratios of the gas barrier material and the synthetic resin and the exact method of the step blow molding technique.

Kikuchi discloses a thermoplastic blend in which the same materials of the instant applicant are blended together. It is not inventive to discover the optimum or workable ranges by routine experimentation, where the general concept of a claim is disclosed. Thus, it would be obvious to use the blend ratiosclaimed by the instant applicant to form a bottle that has optimal gas barrier properties.

Nakamaki discloses biaxially-stretch-blow molding a container (col. 1 lines 13-14). The blow molding method pertains to plyester resins (col. 3 lines 30-32). The method for the biaxially stretch blow molded container comprises the steps of the subjecting the preform article to primary blow molding to obtain a biaxially drawn secondary article (col. 3 lines 59-60). The secondary article is subjected to a secondary blow molding (col. 6 lines 60-62). The redraw ratio is decreased in order to form the final product in the secondary blow molding (col. 6 lines 65-67). It is not inventive to discover the optimum or workable ranges by routine experimentation, where the general concept of a claim is disclosed. Thus, it would be obvious to use the stretch ratios claimed by the instant applicant to form a bottle that has optimal gas barrier properties and heat resistance. It would be obvious to one of ordinary skill in the art to combine the multilayered performs of Kikuchi with the biaxially-stretch blow molding techniques of Nakamaki, because Kikuchi uses polyesters as the main components in the preforms

and uses a heat setting step that is used in Nakamaki. Thus, the container formed from the combination would form a container with excellent barrier properties and heat resistance.

Response to Arguments

4. Applicant's arguments filed 12/28/2007 have been fully considered but they are not persuasive.

The applicant argues that the container of Kikuchi does not teach or suggest a matrix that is blended with a gas barrier material. Claim 4 states ***"wherein said matrix comprises polyethylene terephthalate resin, and said gas barrier material comprises AT LEAST ONE member selected from a group consisting of a methaxylylene group-containing polyamid resin, an amorphous polyester resin and ethylene napthalate-ethylene terephthalate copolymer resin."*** The examiner notes that the claim language reads that only one of the members needs to be selected as part of the gas barrier material. The examiner previously stated that Kikuchi states a thermoplastic resin such as polyethylene terephthalate and ethylene naphthalate copolymers can be blended to form the inner and outer layer of the present invention (col. 6 lines 5-15). The ethylene-terephthalate can be combined with copolymer polyester that contains a small quantity of ester units formed by naphthalene dicarboxylic acid (col. 6 lines 36-38). This is known to form an ethylene-napthalate-ethylene terephthalate copolymer. The examiner notes that a matrix (composite) is defined as a complex material in which two or more distinct substances are combined to

produce structural or functional properties not present in any individual component (Webster). Thus, the examiner considers the blend to be a matrix.

The applicant argues that stretching the multi-layered bottle is not bi-axial stretch blow molded at least twice. Kikuchi states that heat setting may be performed if necessary (col. 8 lines 58-59). To one of ordinary skill in the art this is an inherent two step blow molding process. Heat setting is when the first molded formed preform is biaxially stretched blow molded to form an intermediate object that is heated and stretched to the drawing temperature of the molding chambers. The intermediate object is then biaxially stretched to fit the molding chambers and to form the desired bottle. Thus, Kikuchi uses the standard stretch blow molded techniques that incorporate a heat stetting step that is know to one of ordinary skill in the art. Although Kikuchi does not explicitly state having the container is biaxially stretched twice it would be inherent from the incorporation of the heat setting step. Thus, the rejection of claims 1-7 based on the prior art of Kikuchi stand and the arguments are not found preserve.

5. Applicant's arguments with respect to claims 8-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLEN S. WOOD whose telephone number is (571)270-3450. The examiner can normally be reached on Monday-Friday 7-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ellen S Wood
Examiner
Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794